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REMARKS

Reconsideration of the pending application is respectfully requested. Claims 1-19, 21-22, and 48-50 remain pending in the present application. Claims 20 and 23-47 are canceled.

35 U.S.C. 112 Rejections

The Examiner has rejected Claims 1-19, 21-22 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 22 are currently amended addressing these rejections. Regarding the allegation that it is unclear whether the term diameter refers to the capillary tube diameter or to the tip(s) diameter, it is shown in the FIGs and disclosed in the specification that these diameters are one in the same. The term tapered as used in the claims and application does not refer to a taper in the diameter of the capillary tubes or tips thereof but as a description of the configuration of a tip as viewed from the side as shown in FIGs. 1-4. This appears in the specification as follows:

The lower end of each tubing 9 (FIG. 3A) surrounds the upper portion of each of a set of spaced electrically conductive capillary tubes 12', each capillary tube 12' having at least (FIG. 3A) one sharp tapered tip 13 (FIGS. 1 and 2 each showing two tips 13') being formed from any one of a number of suitable electrically conductive materials such as copper, silver or stainless steel. Each capillary tube 12' with sharp tapered tips 13' is provided with an upper inlet to receive one of the fluid streams emitted from each of spaced gear pumps 8. The inner diameter of the lower outlet of each capillary tube 12' is internally sized in the approximate range of zero point one (0.1) to three (3) millimeters. As can be seen in FIGS. 3B and 3C, the capillary tubes 12' and 12" are shown as provided with two tips 13' and four tips 13", respectively, with the diameter of each tip being in the approximate range of zero point one (0.1) to three (3) millimeters. Spec., Para. 16, lns. 17-33.

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35 U.S.C. 103 Rejections

The Examiner has rejected Claims 1-19, 21-22, and 48-50 under 35 U.S.C. 103(a) as being unpatentable over Cogins et al (6,716,274)(hereinafter '274) in view of Chue et al. (6,713,011)(hereinafter '011). The Examiner alleges that '011 teaches the claimed spinneret tip with the claimed diameter and the tip configuration claimed. Examiner draws attention to element 32 in FIG. 10 (a). Applicant's Attorney respectfully traverses the Examiner on these grounds of rejection.

'011 teaches a spinneret tip having a tapered inner diameter, element 32 in FIG. 10 (a). Applicant is currently claiming capillary tubes having at least two sharp tapered tips. The tips are tapered as seen from the side, not the diameters of the capillary tubes nor the diameters of the tips thereof. As discussed above and shown in the FIGs. of the instant application, the term taper as appears in the claims does not refer to a taper in the diameter of the capillary tubes or even a slant in a side wall but as a description of the configuration of a tip as viewed from the side of a capillary tube. In FIGS. 1-5 of the instant application, the capillary tubes have substantially consistent diameters (i.e. no taper).

It has been discovered that an electrical charge placed on capillary tubes concentrates at sharp parts of the capillary tubes. By having multiple sharp tapered tips at the exit of the capillary tube used in an electrospinning process, as currently claimed, the charge concentrates at these tips near the outlet of the capillary tube and provides a faster flow of solution there through at a desired nanofiber size.

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The use of capillary tubes in electrospinning nanofibers having a plurality of sharp tapered tips is not taught, made obvious, nor remotely suggested in the cited prior art.

Since the claim limitation of having capillary tubes with at least two sharp tapered tips for an electrospinning process, as incorporated into independent Claims 1, 22, 48, 49, and 50, is not taught in the prior art nor remotely suggested, Applicant's Attorney urges that each of these claims now overcome rejections raised by Examiner and respectfully requests Examiner to withdraw said rejections. Additionally, Claims 2-19 and 21 incorporate this limitation through claim dependency, hence; Applicant's Attorney urges these rejections raised by Examiner be withdrawn as well.

Conclusion

Applicant's Attorney urges that the instant application is now in condition for allowance. However, if the Examiner believes there are other unresolved issues in this case, Applicant's Attorney of record would appreciate a call at (502) 584-1135.

Respectfully submitted,

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